FINAL DECISION DOCUMENTATION and DECISION RATIONALE

Hamilton Creek Timber Sale Harvest and Reforestation Plan

Environmental Assessment Number OR080-99-11
Tract No. 01-506

USDI - Bureau of Land Management
Oregon State Office, Salem District, Cascades Resource Area

Sections 5 and 23, Township 12 South, Range 1 East, Willamette Meridian
Linn County, Oregon

I. BACKGROUND

In 1998 and 1999 an interdisciplinary team (IDT) analyzed approximately 198 acres managed by the Cascades Resource Area, Salem District, BLM (Bureau of Land Management) for a timber harvest proposal. The stands analyzed are located within the Hamilton Creek and Crabtree Creek Watersheds. An environmental analysis was conducted and documented in the Hamilton Creek Environmental Assessment (EA) Number OR080-99-11.

The EA documented a proposal to harvest approximately 184 acres within the GFMA Matrix lands and approximately 14 acres in Riparian Reserves. The proposed action also included topping trees to create snag habitat in the uplands and Riparian Reserves. Temporary road construction, road renovation, and road decommissioning were also part of the proposal. A Finding of No Significant Impact (FONSI) was signed on June 7, 1999 and the EA and FONSI were made available for public review on June 7, 1999.

Since the release of the EA, the IDT has identified the need to update some information due to the results from component 2 ("Survey and Manage") surveys and further field reconnaissance. These changes to the proposed action are described in the following section, which also describes any changes to the analysis and determination of effects as presented in the June 7, 1999 EA.

II. MODIFICATIONS TO THE PROPOSED ACTION / CHANGES TO AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

1. Changes to the Proposed Action

1. *Unit acres* - Unit acres have been finalized based on unit traverse and sale layout. Acres were further reduced after identifying additional "Survey and Manage" reserves based on the component 2 "Survey and Manage" and protection buffer survey results. See Appendix A for the "Survey and Manage" Species Survey Summaries. **Table 1a** shows the changes in unit numbers and acres.

2. *Trees per acre after harvest.*
   (a) In units 1, 2, 5 DMR (Density Management Research Area), and 6, there is essentially no change to the prescription analyzed in the EA. The minor difference in range is due to the variability in the natural stand and marking to accommodate that variation.
   (b) In units 3, 4, 5 and 7, the post-harvest trees per acre are slightly higher than those prescribed in the EA. In the professional judgement of the silviculturist in charge of marking, this accomplishes the objectives of the proposal in the EA while taking into consideration specific observed conditions within the stands to be harvested. Marking was done to implement the intent of the EA prescription and accelerate development of tree size and stand diversity to achieve "old growth forest characteristics" as rapidly as possible.

Table 1a: Changes in Unit Numbers, Acres, and estimated tree densities (trees per acre) after harvest

Unit Numbers		Harvest Method	Acres			Trees per acre after harvest	
Current	EA		Current	EA	Change	Current Range [Mean]	EA
1	5 - A	Partial Cut - Commercial Thinning	13			60-200 [~118]	95-155
2		↕	38			80-160 [102]	95-155
subtotal units 1-2 (5-A)		*Partial Cut - Commercial Thinning*	*51*	*110*	*-59*		
3	23 -A	Partial Cut - Density mgt	1			40-80 [60]	30-60
4	23 -B	↕	3			40-80 [60]	30-60
5	23 -C	↕	23			20-120 [72]	30-60
	23 -D						
	23 -E						
7	23 -F	↕	3			20-140 [73]	30-60

Table 1a: Changes in Unit Numbers, Acres, and estimated tree densities (trees per acre) after harvest							
Unit Numbers		**Harvest Method**	**Acres**			**Trees per acre after harvest**	
Current	**EA**		**Current**	**EA**	**Change**	**Current Range [Mean]**	**EA**
subtotal units 3-5, 7 (23A-F)		*Partial Cut - Density mgt*	*30*	*38*	*-8*		
5 (DMR)	Research (DMR)	Partial Cut - Density mgt	6	10	-4	20-80 [63]	30-60
6	23 -G	Partial Cut - Commercial Thinning	3	30	-27	no change	95-155
6R	Riparian (RR)	Partial Cut - Density mgt in Riparian	5	10	-5	120-170	95-155
Total			95	198	*-103*		
Acres by Treatment Summary							
Partial Cut (PC) Commercial Thinning - units 1, 2, 6			*54*	*140*	*-86*		
Partial Cut (PC) Density Management - units 3,4, 5, 7			*30*	*38*	*-8*		
Partial Cut (PC) Density Management / Research Area - unit 5 DMR			*4*	*10*	*-6*		
Density Management (Riparian Reserve) - Unit 6R, 5DMR			*7*	*10*	*-3*		
Total			95	198	*-103*		

3. *Timber volume* - Final timber volume estimates for the sale have been determined through a field timber cruise. Cruise volumes have decreased from 3,560 to 2,562 hundred cubic feet for an overall decrease of 998 hundred cubic feet. **Table 3** shows unit volumes.

4. *Logging Systems* - Logging Systems have also changed due to the location of additional "Survey and Manage" reserves based on the component 2 "Survey and Manage"survey results. The original EA stated that approximately 156-186 acres would be logged using ground based systems and 25-62 acres would be logged using cable systems. There has been a decrease in ground based and cable acres (see **Table 1b**).

Table 1b: Logging Systems Acres				
	Total (Reduction)			
	Current	EA	Change	Reason
Ground Based Yarding	83	156-186	(83 -113)	Change in acres
Cable Yarding	12	25-62	(13 - 40)	Change in acres

5. *Road Construction* - Construction of 5,400 feet of new road has been eliminated due to deletion of some harvest areas from the timber sale contract based on the component 2 "Survey and Manage" and protection buffer survey results. Decommissioning, stabilizing and closing roads changed due to deleting harvest areas served by some of these roads and refinements of the estimated distances based on further field reconnaissance and road traverses (see **Table 2**). A combination of refining definitions, further field reconnaissance and road traverses revealed the following changes:
   (a) Some of the roads described in the EA as "renovation" are roads where work done under the timber sale contract would bring the road to a higher standard than the original design. This is called "improvement" in the contract and in **Table 2**. There has been a decrease in improvement from 5,775 feet analyzed in the EA to 2,798 feet in the timber sale contract.
   (b) One of the roads described in the EA as "renovation" is an unusable road which will be restored to its original design standards. This is still called "renovation" in the timber sale contract and in **Table 2**. Further field reconnaissance revealed that only 397 feet of this 792 feet-long road need to be renovated for operations in this timber sale.
   (c) Some of the roads to be renovated under the terms of the timber sale contract were not addressed in the EA for this action. At the time the Hamilton Creek EA was prepared, this was simply considered to be deferred normal road maintenance. Further field reconnaissance revealed that, by the time operations are expected to begin under the timber sale contract, these roads will need brushing, blading, spot rocking and ditch maintenance which will exceed normal road maintenance, and so is considered to be renovation. 10,877 feet of these roads will be renovated in this way.

6. *Road Decommissioning, Stabilizing and Closing* -

   (a) 1,320 feet of road will be decommissioned, down from 8,568 analyzed in the EA. Decommissioning a road rips the surface and subgrade of the road, restores natural drainage patterns, and sometimes incorporates other measures which make the road unusable to the point that it must be completely renovated to ever be used again. Since the area to be accessed by the new construction was dropped, that 5,400 feet of road will not exist to be decommissioned. The remaining existing road dropped from decommissioning will be needed for future access to the area in Section 5 which was dropped from this timber sale.
   (b) 1,848 feet of existing road will be stabilized by grading, water barring and seeding to minimize erosion, but the road bed will be left intact for future use. This is less than the 3,380 feet analyzed in the EA because the harvest area being served by the additional road was deleted from the contract.

(c) 19,642 feet of road will be blocked or gated, up from 16,580 feet analyzed in the EA. The increase is due to recalculation of road lengths to be blocked and from counting the existing road in Section 5 which was originally planned for decommissioning, but now will be blocked instead.

Table 2: Changes in Roads (feet)

Current	Current	EA	Change	Reason
New Road Construction	0	5400	-5400	S&M survey results deleted acres served by road
Road Improvement	2798	5775	-2977	S&M survey results deleted acres served by road
Road Renovation	397	792	-395	Only a portion of this road is needed for timber harvest operations.
Road Renovation (road maintenance)	10877	0	10877	At time of the EA, considered to be deferred normal maintenance, now considered renovation.
Total Road Renovation, Improvement and Maint.	14072	6567	7505	
Road Decommissioning	1320	8568	-7248	Deleted new road construction to be ripped. Some roads planned for ripping will need to be used in the future to access acres deleted from this proposal.
Road Stabilization	1848	3380	-1532	Some roads are now outside contract area due to area deleted for S&M.
Road Block or Gate	19642	16580	3062	Based on reduced harvest acres

7. *Fuels Treatment* - There are no substantial changes to burning landing piles as described in the EA, but the following operational requirements are included in the timber sale contract to accomplish this treatment:
   (a) Unmerchantable woody debris will be left in the stand rather than yarded to the landings, as much as possible, to reduce the amount of fuels to be treated.
   (b) Landing burn piles will be located on roads and skid roads so that fertile soils will not be damaged by heat.
   (c) Roads and skid trails will be ripped after fuels treatment so that piles will not reduce the effectiveness of ripping to mitigate compaction.

2. Changes to the Project Design Features/Mitigation Measures

1. *Seasonal Restrictions* - An additional seasonal restriction on falling and yarding operations from 4/1 - 6/30 was added to those described in the EA. This is to prevent falling and yarding operations during the time of year when bark and cambium layers on reserved trees could be easily damaged by logging operations.

2. *Reserve Trees* -
   (a) Differences in leave tree density between the EA and the contract reflect the on-the-ground judgement of the silviculturist in charge of marking trees according to the prescription. See Table 1a, above.
   (b) Reserve trees which must be felled for safety or to facilitate logging would have ends cut at an angle so that they are easily identified in the field and are not inadvertently removed from the site.

3. *SEIS Special Attention Species / Survey and Manage Buffers* - Variable radius buffers (see Appendix A) have been placed around all "Survey and Manage" mollusks and around population centers of fungi as identified during surveys.

4. *Skid Roads* - With ground-based logging, existing skid roads would be used wherever feasible. New skid roads would be at least 150 feet apart, except at and near junctions. All skid roads used for logging would be ripped after fuels treatment/pile burning, but existing skid roads which are not used in this operation would not be ripped. It is the intent of the soil scientist to monitor the effects of ripping skid roads in these types of stands. Less common types of yarding systems, such as harvester/forwarder, shovel logging, etc. may be allowed, which would change the skid road locations and amount of traffic on those roads.

3. Changes to the Environmental Consequences

1. *Changes in Acres, Road Construction and Decommissioning* -

   (a) Wildlife: There would be fewer acres of temporary degradation of closed canopy related habitat for a variety of wildlife species. Identified mollusk populations would be protected by buffers or by having the entire surrounding area deleted from the proposed harvest area. There will be less opening created since there will be no new road construction. Other effects will remain the same as analyzed in the EA.

   (b) Fisheries: None of the changes listed above would affect fisheries, in any discernable way, different from what was analyzed in the EA.

(c) Soils and Water:

i) Cable Yarding: Reducing the number of cable yarded acres from 26-62 in the EA to 12 in the modified selected action reduce non-mitigated compaction and loss of productivity on the harvest area by up to 50 acres.

ii) Ground-Based Yarding: Ground-based logging would be reduced from 156-186 acres to 83 acres. However, ground-based yarding roads would be ripped after completion of yarding under either proposal, and residual compaction would be negligible.

iii) Roads:
   (a) Roaded miles per section totals for the sub-watersheds would remain approximately the same as analyzed in the EA.
   (b) Elimination of road construction would reduce created openings in the stand, and effects to soil and water from road construction would not occur.
   (c) Reducing the amount of existing road to be decommissioned would reduce the amount of existing compaction mitigated by ripping, delaying revegetation of these road prisms.
   (d) Reducing the amount of existing road to be stabilized will have little effect outside of the road prisms. It would make future renovation of the affected roads more difficult if needed.
   (e) The change to the number of feet of road to be closed by blocking or gating is insignificant, merely a refinement of exact closure locations.

iv) Water Quality: No change in water quality or riparian shade would be anticipated under the modifications analyzed.

v) Cumulative Impacts: Cumulative impacts would be lower under this modification than originally analyzed in the EA. When compared to the EA, changes in Water Available For Runoff (WAR), and Equivalent Clearcut Acreage (ECA) would be reduced by up to 52 percent, based on a 52 percent reduction in acres to be harvested compared to harvest acres analyzed in the EA.

III. DECISION

The decision to be made by the Cascades Resource Area Field Manager is whether or not to prepare an Environmental Impact Statement (EIS), and whether to approve the Hamilton Creek Timber Sale as proposed, not at all, or to some other extent.

Based on site-specific analysis in the EA, the supporting project record, management recommendations contained in the Watershed Analysis (Hamilton Creek) dated March, 1995, as well as the management direction contained in the *Salem District Resource Management Plan* (RMP), dated May, 1995, I have decided to implement Alternative 1 of the Hamilton Creek Environmental Assessment (EA # OR080-99- 11) (EA pp. 5-7 with the modifications in Section II -1 and 2, above, hereafter referred to as the "selected action" (see attached map). Management Activities by Harvest Method can be found in **Table 3**.

The following is a summary of this decision.

1. Harvest approximately 95 acres from GFMA and Riparian Reserve Land allocations for an expected yield of 2,562 hundred cubic feet (CCF) (1,489 MBF). The following is a description of harvest acres and timber volumes by harvest method.

    1. *Commercial thinning* (Partial Cut) of approximately fifty-four (54) acres of Matrix lands from three units or partial units (Units 1, 2, 6). It is expected that this will yield approximately 955 CCF.

    2. *Partial Cut - Density Management:* Partial cut approximately thirty (30) acres from four units or parts of units (Units 3, 4, 5, 7). It is expected that this will yield approximately 1,265 CCF.

    3. *Research - Density Management*: Partial cut approximately four (4) acres from part of one unit (Unit 5 DMR). It is expected that this will yield approximately 177 CCF.

    4. *Riparian Reserve:* Density Management of approximately seven (7) acres within the Riparian Reserve in parts of two units (Unit 6R, Unit 5 DMR riparian). It is expected that this will yield approximately 165 CCF. [1]

[1] Does not count toward Allowable Sale Quantity (ASQ)

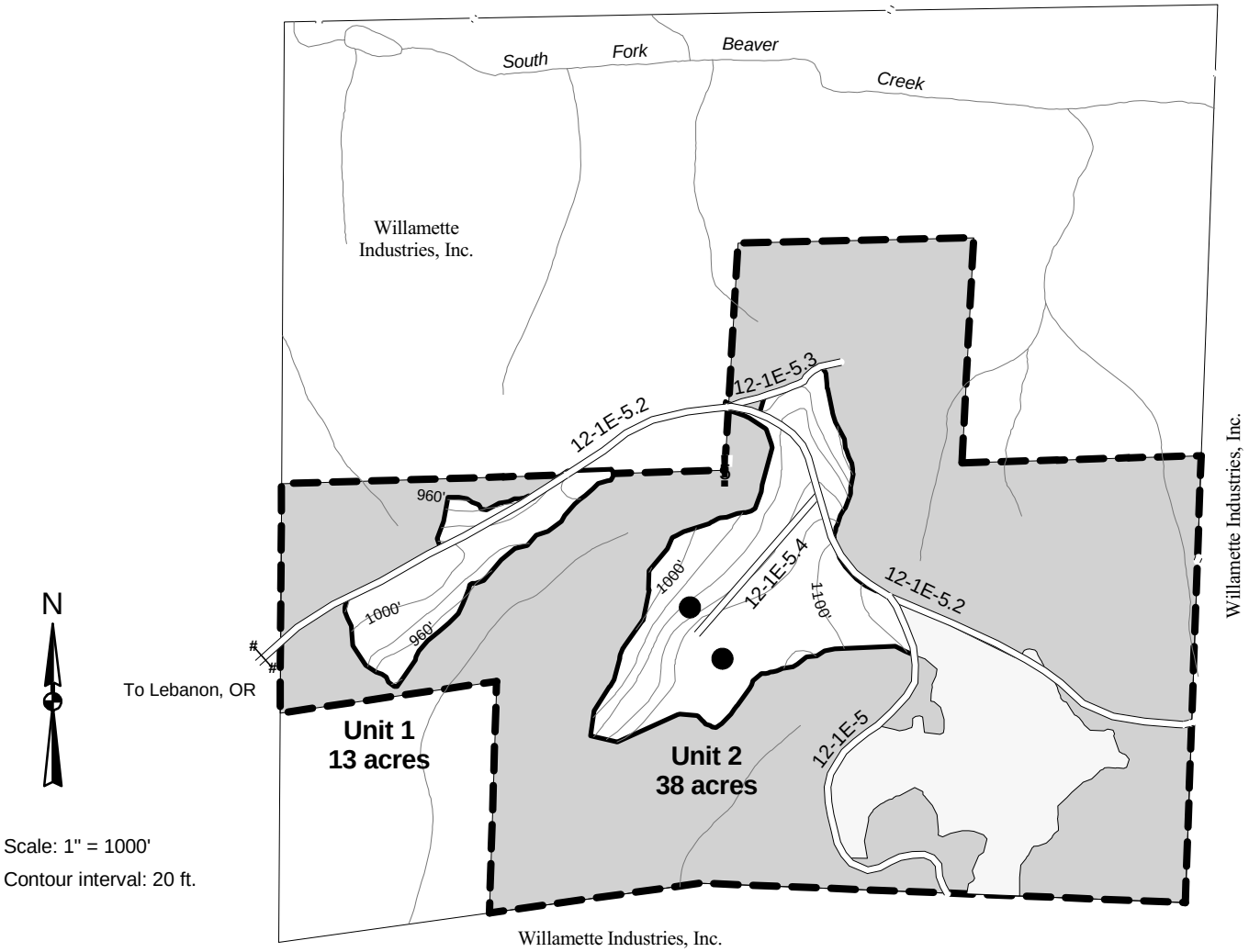
Table 3: Unit Information for the Selected Action

Unit Information	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 5 DMR	Unit 5 DMR (Riparian)	Unit 6	Unit 6R (riparian)	Unit 7	Total
Stand Age	53 years		72 years			70 years		35 years		72 years	
Dominant Species	Douglas-fir - dominant; grand fir, big leaf maple		Douglas-fir - dominant; western hemlock and western redcedar					Douglas-fir		Douglas-fir	
Trees per acre prior to harvest	253	149	198	198	198	182	182	261	256	150	
Estimated trees per acre after harvest (Mean from Table 1a)	118	102	60	60	72	63	63	148	120-170	73	
Harvest Method	Commercial thinning		Density Management (Mgt.)					Commercial thinning	Density Mgt.	Density Mgt.	
Unit Acres and Volume											
Harvest Acres	13	38	1	3	23	4	2	3	5	3	95
Cruised Volume (ccf - hundred cubic feet)	227	681	47	124	1263			124		96	2562
					998	177	88	47	77		
Cruised Volume (mmbf - million board feet)	126	379	28	75	755			75		51	1489
					596	106	53	28	47		

August 14, 2000

Hamilton Creek
Tract 00-506
EXHIBIT A
Sheet 1 of 2

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
TIMBER SALE CONTRACT MAP - Contract No. OR080-TS00-506
Section 5, T. 12 S., R. 1 E., W.M. - Salem District, Oregon



Scale: 1" = 1000'
Contour interval: 20 ft.

Partial cut area	51 acres
Reserve area	269 acres
Total contract area	320 acres

NOTE: Unit boundaries are posted.
Trees to be cut in Section 5 are painted red.
Trees to be cut in Section 23 are painted yellow.

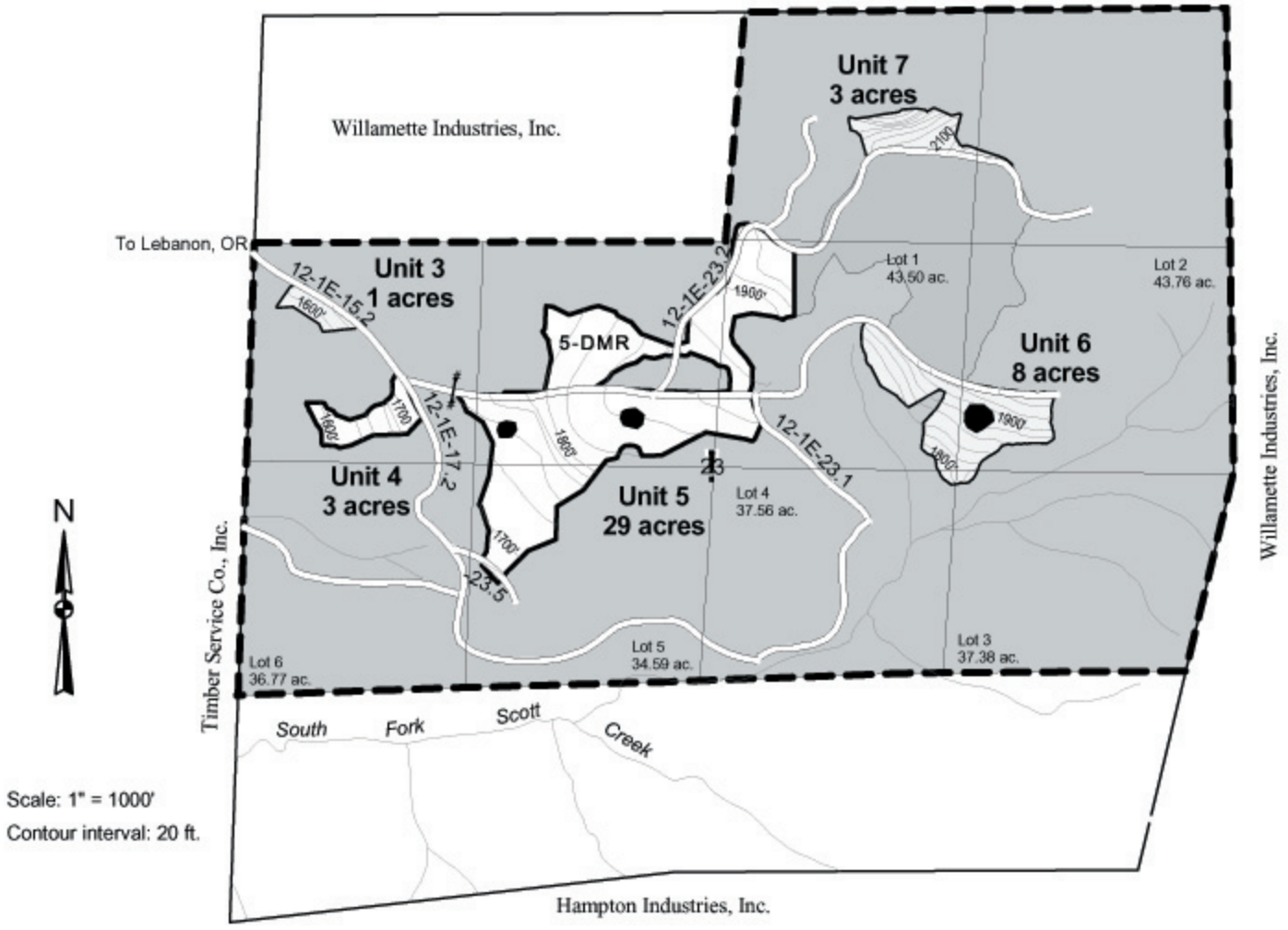
LEGEND

- Partial cut area
- Reserve area
- Area previously marked, deleted from sale area - reserved
- Green tree retension area - reserved
- Stream
- Existing road
- Boundary - unit area
- Boundary - contract area
- # — # Gate

August 14, 2000

Hamilton Creek
Tract 00-506
EXHIBIT A
Sheet 2 of 2

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
TIMBER SALE CONTRACT MAP - Contract No. OR080-TS00-506
Section 23, T. 12 S., R. 1 E., W.M. - Salem District, Oregon



Scale: 1" = 1000'
Contour interval: 20 ft.

Partial cut area	44.00 acres
Reserve area	349.56 acres
Total contract area	393.56 acres

NOTE: Unit boundaries are posted.
Trees to be cut in Section 5 are painted red.
Trees to be cut in Section 23 are painted yellow.

LEGEND

- Partial cut area
- Reserve area
- Cable yarding area
- Area previously marked, deleted from sale - reserved
- Green tree retension area - reserved
- Stream
- Existing road
- Gate
- Boundary - unit area
- Boundary - contract area

2. Tree Topping: Approximately 200 trees would be topped within the project area for snag creation.

3. Road Work:

   1. Road Improvement, Renovation and Maintenance: Road improvement, maintenance or renovation (brushing, blading, or rocking) would occur on approximately 17,267 feet of existing road. These activities would take place within the current road prism.

   2. Road decommissioning: Approximately 1,320 feet of existing roads would be decommissioned then blocked or gated.

   3. Road Stabilization: Approximately 1848 feet of existing dirt road would have minor drainage modification and shaping to prevent erosion and further degradation of the road prism.

   4. Compliance with Direction

   The selected action is consistent with applicable land use plans, policies, and programs (EA, p. 5).

   a. Programmatic documents covering this proposal are the:
   Salem District Resource Management Plan (May 1995);
   Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994);
   Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional Forest Related Species Within the Range of the Northern Spotted Owl (SEIS, February 1994);
   Western Oregon Program-Management of Competing Vegetation Final Environmental Impact Statement (VMFEIS, February 1989) and the *Western Oregon Program-Management of Competing Vegetation Record of Decision (August 1992)*;
   Environmental Assessment to Change the Implementation Schedule for Survey and Manage and Protection Buffer Species (October 1998);
   Plan Maintenance Documentation: Decision to Delay the Effective Date for Surveying 7 "Survey and Manage" and Protection Buffer Species (March 2000).

   All of these documents may be reviewed at the Cascades Resource Area office.

b. Survey and Manage: The Component 2 surveys for this project are in compliance with the Stipulation for Order Dismissing the Action (August 2, 1999) in the ONRC Action lawsuit[2]. See Appendix A and the project file for "Survey and Manage" survey results.

c. Monitoring activities related to this sale will be done as described in Appendix J of the RMP (May, 1995).

DECISION RATIONALE

Considering public comments, the content of the EA and supporting project record, the management recommendations contained in the Hamilton Creek Watershed Analysis, and the management direction contained in the RMP, I have decided to implement the selected action as described above. My rationale for this decision follows:

The selected action addresses the identified purpose and need for action in that it will:

a. Meet the need for forest products and forest habitat as described in the *Salem District Resource Management Plan* (RMP, 1995, pp. 1 and 2) by harvesting trees in such a manner as to maintain long-term sustainable timber production capacity and retain important ecological components.

b. Contribute significantly to rapidly developing late-successional forest condition stands in the intermediate term with density management harvest. Uneven aged management of these stands would also preserve management options and maintain a forested condition for the foreseeable future.

c. Contribute to ongoing research in density management by providing a demonstration area for density management harvest practices in an older stand than found in the nearby density management research project.

d. Contribute to increasing timber production in managed stands by commercial thinning (RMP, p. 48).

[2] Oregon Natural Resources Council v. United States Forest Service and Bureau of Land Management, Civil No. 98-0942WD

e. Contribute to Aquatic Conservation Strategy objectives by partially restoring the species composition and structural diversity of plant communities in selected areas of riparian reserve adjacent to planned harvest areas by selective cutting of trees, creating snags, and creating coarse woody debris. This will be done in order to maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species. Trees cut to enhance spatial and species diversity which are not needed for coarse woody debris will be harvested to help meet the need for forest products.

f. Increase the quality and quantity of snags in the long term by topping trees to create snags.

g. Decrease road densities by decommissioning and blocking roads.

h. Maintain access to these areas for management and fire protection by maintaining some roads not blocked, gated or decommissioned.

Alternative 2- Matrix Commercial Thinning harvest in units 3-5, and 7: This alternative was not selected due to the age and structure of the trees. These trees are past culmination. The density management prescription selected is more effective in developing future late successional structure than a commercial thinning.

Alternative 3 - Deferred Harvest (No Action): The "no action" alternative was not selected because it does not fulfill the purpose and need for action.

IV. PUBLIC INVOLVEMENT/ CONSULTATION/COORDINATION

1. Scoping

A description of the proposal was included in the Salem District Bureau of Land Management *Project Update* which is mailed to more than 900 individuals and organizations four times each year. A letter asking for scoping input on the proposal was mailed on September 25, 1998 to approximately 15 adjacent landowners and individuals who have expressed an interest in management activities in the Cascades Resource Area as a whole or in this drainage.

A letter was also sent on October 9, 1998 to one individual who requested information by phone after the scoping mailing list had been completed and the scoping letters mailed.

2. Comment Period and Comments

The EA comment period for this sale went from June 7 through July 6, 1999. Two comment letters were received from the Oregon Natural Resources Council (ONRC) and the Northwest Environmental Defense Center (NEDC). The response to these comments is available upon request.

3. Consultation/Coordination

The Hamilton Creek Timber Sale was submitted for Formal Consultation with the U.S. Fish and Wildlife Service on August 12, 1998 as provided in Section 7 of the Endangered Species Act of 1973 (16U.S.C. 1536 (a)(2) and (a)(4) as amended) . Consultation was concluded on September 29, 1998 (Service Log #98-F-381). As a result of consultation, the U.S. Fish and Wildlife Service found that the sale would not likely jeopardize the continued existence of the spotted owl.

The Hamilton Creek Timber Sale was determined to be "may affect, not likely to adversely affect" Upper Willamette River (UWR) steelhead and UWR chinook salmon. Concurrence by the National Marine Fisheries Service (NMFS) with that determination was received by Salem District BLM in a letter dated August 6, 1999. The selected action, as described in this decision documentation, is not expected to result in any additional effects to listed fish species from those described in consultation with NMFS.

CONCLUSION

I have determined that change to the Finding of No Significant Impact (FONSI) for the Hamilton Creek Timber Sale is not necessary for these reasons:

The existing EA for the Hamilton Creek Timber Sale, along with additional information contained in this document, fully covers the project as modified by the proposed mitigation and adjustments required by the surveys conducted for Survey and Manage species, and Section 7 consultation. The action, as amended, is within the scope of the alternatives identified in the original EA, and the environmental impacts are within those described in the original EA and are less than or the same as those anticipated for the proposed action in that assessment.

There are no significant new circumstances or facts relevant to environmental concerns and bearing on the modification to the proposed action or its impacts which were not addressed in the EA. The EA anticipated protecting Survey and Manage species in accordance with the Record of Decision for the Northwest Forest Plan and the Salem District RMP. The surveys conducted for this sale complete the survey requirements for this sale as amended by the *Plan Maintenance Documentation: Decision to Delay the Effective Date for Surveying 7 "Survey and Manage" and Protection Buffer Species*, which was approved March 13, 2000, and fulfills the Survey and Manage standards and guidelines commitment identified in the EA.

Protests

In accordance with Forest Management Regulations at 43 CFR 5003.2, the decision for this timber sale will not become effective or be open to formal protest until the Notice of Sale is published "in a newspaper of general circulation in the area where the lands affected by the decision are located". Protests of this sale must be filed within 15 days of the first publication of the notice. For this project, the Notice of Sale will be published in the *Albany Democrat Herald* on November 2, 2000. The planned sale date is November 29, 2000.

Contact Person

For additional information concerning this decision or the BLM protest process, contact Keith Walton (503) 375-5676, Carolyn Sands (503) 315-5973 or Bob Hershey (503) 315-5931, Cascades Resource Area, Salem District BLM, 1717 Fabry Rd. SE, Salem, Oregon 97306.

Approved by: Scott Abdon

Scott Abdon
Acting Cascades Field Manager

NOV 2 2000
Date

V. APPENDIX A: "Survey and Manage" Species Survey Summaries

1. FUNGI

The units of this timber sale are located along the west slopes of the Cascade Range, approximately five air miles southeast of the town of Lacomb, in Sections 5, 23, T.12S., R.1E., W.M . Linn County, Oregon, within the Hamilton Creek watershed. Approximately 150 acres were surveyed for "Survey and Manage" (S&M) or Protection Buffer (PB) fungi species.

a. Survey Results

Fall fungi surveys for *Aleuria rhenana, Bondarzewia mesenterica, Otidea leporina, Otidea onitica* and *Otidea smithii,* were initiated on November 8th and completed on December 6 th 1999. Spring fungi surveys for *Sarcosoma mexicanum* were initiated on March 7th and completed on April 4th 2000. The units of the Hamilton Creek Timber Sale were surveyed using three intuitive controlled surveys spaced at two to three week intervals and were in accordance with the newly established protocol described in *BLM Instruction Memorandum No. OR 2000-018.* **Table 4** shows the survey results and **Table 5** shows effects on the current units.

Table 4: Survey Results

EA Unit	Survey Unit	Current Unit	Species	Category	Found in Fall Surveys	Found in Spring Surveys
5-A	1	1	*Sarcosoma mexicanum*	S&M 3, PB		**X**
	2	2	*Sarcosoma mexicanum*	S&M 3, PB		**X**
			Otidea onotica	S&M 1,3	**X**	
23-A	3	3	*Phaeocollybia attenuata*	S&M 3	**X**	
						None
23-B	4	4	*Phaeocollybia olivacea*	S&M 3	**X**	
			Phaeocollybia spadicea	S&M 3	**X**	
23-B	4	4				**none**

Table 4: Survey Results

EA Unit	Survey Unit	Current Unit	Species	Category	Found in Fall Surveys	Found in Spring Surveys
23-C	5	5	*Otidea onotica*	S&M 1, 3	**X**	
			Phaeocollybia attenuata	S&M 3	**X**	
			Sarcosoma mexicanum	S&M 3, PB		**X**
			Phaeocollybia olivacea	S&M 3	**X**	
			Phaeocollybia piceae	S&M 1,3	**X**	
23-D			None			
23-E					None	
			Sarcosoma mexicanum	S&M 3, PB		**X**
23F		7	None			
23-G		6	*Otidea onotica*	S&M 1, 3	**X**	
			Sarcosoma mexicanum	S&M 3, PB		**X**
RR		5 DMR 6 R			None	
			Sarcosoma mexicanum	S&M 3, PB		**X**
DMR		5 DMR			None	
			Sarcosoma mexicanum	S&M 3, PB		**X**

b. Effects to Current Units:

Table 5: Effects to Units

EA Unit	Survey Unit	Current Unit	Effect
5-A	1	1	The 4 *Sarcosoma mexicanum* (S&M 3, PB) and their substrate located at this site may be disturbed due to the planned activity. No effect in regards to the continued existence of *Sarcosoma mexicanum* (S&M 3, PB) is expected to occur due to the protection allotted this fungi in unit 2 and because it is a common species found in the middle and lower elevations of the Cascades Resource Area.
	2	2	Of the seventeen *Sarcosoma mexicanum* (S&M 3, PB) located at this site, twelve of these fungi sites were buffered by removing the southeastern portion of this sale from the proposed project area. This 29 acre buffer also gave protection to the *Otidea onotica* (S&M 1,3) site located here. The five additional *Sarcosoma* sites in this unit will not be protected.
23-A	3	3	No Survey and Manage 1,2 or Protection Buffer fungi requiring protection were identified during the fall 1999 or spring 2000 fungi surveys. At this time no special management for S&M 3 species such as *P. attenuata* is required (RMP p. 30). Due to the apparent abundance to this species at other sites throughout the Cascades, no adverse effect to this species or its continued existence is expected to occur due to the proposed project
23-B	4	4	No Survey and Manage 1,2 or Protection Buffer fungi requiring protection were identified during the fall 1999 or spring 2000 fungi surveys. At this time no special management for S&M 3 species such as *P. olivacea* and *P. spadicea* is required (RMP p. 30). Due to the apparent abundance to these species at other sites throughout the Cascades, no adverse effect to these species or to their continued existence is expected to occur due to the proposed project .
23-C	5	5	*Sarcosoma mexicanum* (S&M 3, PB) is well protected and well represented within reserve areas adjacent to this unit, throughout the Coast and Cascade mountain range and therefore no adverse effect to this species or it's continued existence is expected. The *Otidea onotica* (S&M 1,3) and *Phaeocollybia piceae* (S&M 1,3) fungi found at this site were each given a 100 foot protection buffer to protect both their microclimate and substrate. Therefore, no adverse effect to the continued existence of either of these species at this site is expected.
23-D	5	5	No effect to any Survey and Manage fungi is expected to occur at this site due to the fact that no Survey and Manage fungi were identified during either the spring or fall fungi surveys of this unit.
23-E	5	5	No effect to the Survey & Manage / Protection Buffer fungi that exist at this site is expected to occur due to the fact that the majority of this unit was removed from consideration as part of the proposed project to protect the *Sarcosoma mexicanum* (S&M 3,PB) that exist at this site.
23-F	5	7	No effect to any Survey and Manage fungi is expected to occur at this site due to the fact that no Survey and Manage fungi were identified during either the spring or fall fungi surveys of this unit.

Table 5: Effects to Units			
EA Unit	**Survey Unit**	**Current Unit**	**Effect**
23-G	5	6	No effect to the S&M fungi that exist at this site is expected to occur due to the fact that the majority of this unit was removed from consideration as part of the proposed project to protect the *Sarcosoma mexicanum* (S&M 3,PB) that exist at this site. The two *Otidea onotica* (S&M 1,3) fungi at this site were given a 100' X 200' protection buffer encompassed both fruiting body sites, protecting both their substrate and microclimate.
RR	5	5 DMR, 6R	*Sarcosoma mexicanum* (S&M 3, PB) is well protected and well represented within reserve areas adjacent to this unit, throughout the Coast and Cascade mountain range and therefore no adverse effect to this species or it's continued existence is expected.
DMR	5	5 DMR	*Sarcosoma mexicanum* (S&M 3, PB) is well protected and well represented within reserve areas adjacent to this unit, throughout the Coast and Cascade mountain range and therefore no adverse effect to this species or it's continued existence is expected.

2. TERRESTRIAL SURVEY AND MANAGE

a. Mollusks

1. Surveys

Surveys for terrestrial mollusks identified as Survey and Manage species in the NFP were conducted according to draft protocol (Version 2.0, dated October, 1997). Eight mollusk species identified under the NFP could occur in the Cascades Resource Area.

A total of 256 acres in the One Horse Area (section 5) of the Hamilton Creek Timber Sale area were surveyed during the fall of 1998 and spring of 1999. Random and fixed plot search techniques were employed for a total search time of 52.75 hours. Twenty-four survey and manage sites representing two of the eight species were identified within the survey area.

A total of 152 acres in the Keel Flats area (section 23) of the Hamilton Creek Timber Sale area were surveyed during the fall of 1998 and spring of 1999. Random and fixed plot search techniques were employed for a total search time of 30.7 hours. Sixteen survey and manage sites representing three of the eight species were identified within the survey area.

Table 6: Survey Results for Mollusks

Species	Total # Sites	Component	Location
Snails			
Megomphix hemphillia	11	S&M 1,2	Ea Unit 5A (units 1 and 2)
	3		EA units 23a-g (units 3-7)
Slugs			
Prophysaon coeruleum	2	S&M 1,2	EA units 23a-g (units 3-7)
Prophysaon dubium	11	S&M 1,2	EA units 23a-g (units 3-7)
	13		Ea Unit 5A (units 1 and 2)

The most common species found in the One Horse Area (section 5) was the papillose tail-dropper *(Prophysaon dubium),* which was found at thirteen locations (see **Table 6**). Oregon megomphix (*Megomphix hemphillia*) was found at eleven locations. The mollusks were found on the forest floor in hardwood and coniferous leaf litter, usually with sword ferns and big-leaf maple present. Neither species found meet the criteria for locally common as described in the draft Management Recommendations, version 2.0.

The most common species found in the Keel Flat area was the papillose tail-dropper *(Prophysaon dubium),* which was found at eleven locations. Oregon megomphix (*Megomphix hemphilli*a) was found at three locations. Blue-gray tail-droppers *Prophysaon coeruleum* were found at two locations. The mollusks were found on the forest floor in hardwood and coniferous leaf litter in association with vine maple and sword ferns. None of the species found in the vicinity of the Keel Flats Thinning meet the criteria for locally common as described in the draft Management Recommendations, version 2.0. *Prophysaon dubium* was found to be locally common in unit 23-G, despite past management of this stand. This unit was clearcut and burned about 35 years ago. In addition, *Megomphix hemphillia* and the two *Prophysaon coeruleum* were found in unit 23-G.

2. *Recommendations Incorporated into the Selected Action*

(a) Maintain current canopy closures and micro climate around all known mollusk sites. Based on the survey results, protection can be achieved with a 50 to 75 foot no entry buffer to maintain current canopy closures and forest floor conditions after thinning. Canopy closures average 60 to 70 percent pre treatment, and are expected to be 40 to 50 percent post treatment. Due to the high green tree retention levels planned after thinning, protection of all these locations is highly feasible.

(b) In addition, leave all big-leaf maple as reserved trees where possible.

(c) Minimize disturbance of understory vegetation, forest floor litter, duff and woody debris within mollusk reserves. Avoid prescribed fire and logging activity within mollusk reserves. No prescribed fire or logging activity is planned in any of the mollusk reserves.

b. Red Tree Voles

One Horse (Units 1 and 2): Red tree vole (RTV) surveys (line transect) were conducted on the proposed project area during the fall of 1999. Approximately 20,000 linear feet of transect were surveyed to protocol. No known RTV nests were located within the project area.

Keel Flats (Units 3-7): Red tree vole (RTV) surveys (line transect) were conducted on the proposed project area during the fall of 1999. Approximately 26,000 linear feet of transect were surveyed to protocol. No known RTV nests were located within the project area.